

Human Pregnancies

Consider the following letter to "Dear Abby", which appeared in the Nashville Tennessee newspaper *The Tennessean* on January 20, 1973:

Dear Abby,

You wrote in your column that a woman is pregnant for 266 days. Who said so? I carried my baby for ten months and five days, and there is no doubt about it because I know the exact date my baby was conceived. My husband is in the Navy and it couldn't have possibly been conceived any other time because I saw him only once for an hour, and I didn't see him again until the day the baby was born.

I don't drink or run around, and there is no way this baby isn't his, so please print a Retraction about the 266-day carrying time because otherwise I'm in a lot of trouble.

San Diego Reader

Let's say, given the above letter, we want to determine the distribution of human pregnancies in order to figure out the proportion of women who are pregnant longer than 266 days.

For the following problems, assume that the distribution of human pregnancies is approximately normal, with a mean of 266 days and a standard deviation of 16 days.

1. What is the proportion (or relative frequency) of pregnancies that last less than 230 days?
2. What is the proportion of pregnancies that last more than 305 days?
3. What is the proportion of pregnancies that last between 245 and 286 days?
4. How many days pregnant would a woman have to be to be in the lowest 7% of the distribution of pregnancies?
5. How many days pregnant would a woman have to be to be in the highest 20% of the distribution of pregnancies?

6) Was the San Diego Reader's pregnancy unusual? Explain.